

ABSTRACT OF THE DISCLOSURE

A method and apparatus for processing a microelectronic workpiece using metrology. The apparatus can include one or more processing or transport units, a metrology unit, and a control unit coupled to the metrology unit and at least one of the processing or transport units. The control unit can modify a process recipe or a process sequence of the processing unit based on a feed forward or a feed back signal from the metrology unit. The control unit can also provide instructions to the transport unit to move the workpiece to a selected processing unit. The processing unit can include, *inter alia*, a seed layer deposition unit, a process layer electrochemical deposition unit, a seed layer enhancement unit, a chemical mechanical polishing unit, and/or an annealing chamber arranged for sequential processing of a workpiece. The processing units can be controlled as an integrated system using one or more metrology units, or a separate metrology unit can provide input to the processing units.